

CLAIMS

1. A process for producing lactoperoxidase comprising: a step (1) for bringing one
or more milk materials into contact with a cation exchanger having weakly acidic
5 groups as ion exchange groups to thereby effect adsorption treatment; a step (2) for
washing the cation exchanger after said adsorption treatment; a step (3) for bringing
said washed cation exchanger into contact with a leaching solvent which elutes
lactoperoxidase, to thereby obtain a leaching solution having lactoperoxidase eluted
into said leaching solvent; a step (4) for concentrating said leaching solution through
10 an ultrafiltration membrane to thereby effect precipitation in the concentrated
leaching solution; and a step (5) for obtaining a lactoperoxidase solution by removing
the precipitation from said concentrated leaching solution.
2. A process for producing lactoperoxidase according to claim 1, wherein a
15 lactoferrin adsorption capacity of said cation exchanger is 85 mg/10 ml or more.
3. A process for producing lactoperoxidase according to claim 1 or 2, wherein said
ion exchange groups are carboxymethyl groups.
- 20 4. A process for producing lactoperoxidase according to any one of claims 1 to 3,
wherein, in said step (4), the concentration is performed so that a protein content in
said concentrated leaching solution becomes 0.9 to 15%, to thereby effect
precipitation.
- 25 5. A process for producing lactoperoxidase according to any one of claims 1 to 4,
wherein an ionic strength of the leaching solvent used in said step (3) is 0.07 to 0.3.
6. A process for producing lactoperoxidase according to claim 5, wherein the
leaching solvent used in said step (3) is an aqueous solution containing at least one salt

selected from a group consisting of sodium chloride, potassium chloride, calcium chloride, and magnesium chloride.

7. A process for producing lactoperoxidase according to any one of claims 1 to 6,
5 further comprising a step for obtaining solid lactoperoxidase by removing the solvent of the lactoperoxidase solution obtained in said step (5).
8. A process for producing lactoperoxidase according to claim 7, wherein a purity of the solid lactoperoxidase is 80% or more.